

Amendments to the Claims:

Please cancel claims 5, 10, 19, 21, 28-29, and 34-35.

This listing of claims will replace all prior versions, and listings, of claims in the application:

IN THE CLAIMS

A complete listing of all claims in this application is set forth below.

1. (Currently amended) A fracture repair system for engagement with a bone having a condylar portion and a shaft portion, the system comprising: a plate including a head portion and a body portion, the head portion having an internal wall defining a head hole therethrough and adapted for cooperation with the condylar portion, the body portion having an internal wall defining a body hole therethrough; a bushing including a generally spherical exterior surface adapted for cooperation with the head hole and an opposed interior surface defining a passageway therethrough, the exterior surface of said bushing and the head hole of said plate being configured to permit polyaxial rotation of said bushing within the head hole; a ~~head attachment component~~ pin including a ~~distal portion~~ cylindrical shank having a non-threaded external periphery sized for clearance passage through the passageway and into the bone and ~~an opposed proximate portion~~ a head extending from the shank and sized to urge said bushing against the internal wall of said plate to form a friction lock between said

bushing and said plate in a selected polyaxial position, said ~~head attachment component pin~~ being positionable in an orientation extending ~~divergingly~~ divergently from said plate; and ~~a body attachment component including a stem portion for passage through the body hole and into the bone and an opposed cap portion sized to cooperate with said plate, at least one of the distal portion of said head attachment component and the stem portion of said body attachment having a smooth periphery.~~

2. (Original) A fracture repair system as in claim 1, wherein said plate defines a surface thereof, the surface closely conforming to the bone.

3. (Currently amended) A fracture repair system as in claim 1: ~~wherein the body portion of said plate further defines a second body hole through the body portion; and,~~ further comprising a ~~second~~ body attachment component including a stem portion for passage through the ~~second~~ body hole and into the bone and an opposed cap portion sized to cooperate with said plate.

4. (Currently amended) A fracture repair system as in claim 3: wherein the cap portion of said ~~first mentioned~~ body attachment component is fixedly securable to said plate; and ~~wherein the cap portion of said second body attachment component is moveably securable to said plate.~~

5. (Cancelled)

6. (Currently amended) A fracture repair system as in claim 43: wherein said attachment component comprises first external threads on the proximate cap portion thereof and second external threads on the distal stem portion thereof; ~~and wherein the radially interior surface of said bushing comprises first internal threads thereon, said first internal threads of said bushing engageable with said first internal threads of said attachment component.~~

7. (Currently amended) A fracture repair system for engagement with a bone having a condylar portion and a shaft portion, the system comprising:

a plate including a head portion and a body portion, the head portion having an internal wall defining a head hole therethrough and adapted for cooperation with the condylar portion, the body portion having an internal wall defining a first body hole and a spaced apart second body hole therethrough;

a first rigid body attachment component including a stem portion for passage through the first body hole and into the bone and an opposed cap portion adapted to rigidly cooperate with said plate; and

a movable body attachment component including a stem portion for passage through the second body hole and into the bone and an opposed cap portion adapted to movably cooperate with said plate, ~~at least one of the stem portion of said rigid body attachment component and the stem portion of said movable body attachment having a smooth periphery;~~

a bushing including a generally spherical exterior surface adapted for cooperation with the head hole and an opposed interior surface defining a passageway therethrough, the exterior surface of said bushing and the head hole of said plate being configured to permit polyaxial rotation of said bushing within the head hole; and

a pin including a cylindrical shank having a non-threaded external periphery sized for clearance passage through the passageway and into the bone and a head extending from the shank and sized to urge said bushing against the internal wall of said plate to form a friction lock between said bushing

and said plate in a selected polyaxial position, said pin being positionable in an orientation extending divergently from said plate.

8. (Original) A fracture repair system as in claim 7, wherein said plate defines a surface thereof, the surface closely conforming to the bone.

9. (Currently amended) A fracture repair system as in claim 7: wherein the stem portion of said first ~~mentioned~~ rigid body attachment component is sized to be in clearance with the body hole; and further comprising a second rigid body attachment component including a stem portion for passage through the body hole and into the bone and an opposed cap portion adapted to rigidly cooperate with said plate, the stem portion of said second rigid body attachment component being threadably cooperable with said plate.

10. (Cancelled)

11. (Currently amended) A fracture repair system as in claim 7, wherein the body portion of said plate adjacent the first ~~mentioned~~ body hole defines a first location featured for cooperating with a drill jig for guiding the attachment components and the body portion of said plate adjacent the second body hole defines a second location featured for cooperating with the drill jig, the first location feature and the second location feature being substantially identical.

12. (Currently amended) A fracture repair system for engagement with a bone having a condylar portion and a shaft portion, the system comprising:

a plate including a head portion and a body portion, the ~~body~~head portion having an internal wall defining a ~~body~~first head hole therethrough, the body portion having a first internal wall defining a first body hole therethrough;

a first ~~rigid~~body attachment component including a stem portion for clearance passage through the ~~body~~first head hole and into the bone and an opposed cap portion adapted to ~~rigidly~~-cooperate with said plate; and

a bushing including a generally spherical exterior surface adapted for cooperation with the first body hole and an opposed interior surface defining a passageway therethrough, the exterior surface of said bushing and the first body hole of said plate being configured to permit polyaxial rotation of said bushing within the first body hole; and

a pin including a cylindrical shank having a non-threaded external periphery and ~~second rigid body attachment component including a stem portion for threadable engagement with the body hole and into the bone and an opposed cap portion~~ a head extending from the shank and sized to urge said bushing against the first internal wall of said plate to form a friction lock between said bushing and said plate in a selected polyaxial position ~~adapted to rigidly cooperate with said plate, at least one of the stem portion of said first rigid body attachment component and the stem portion of said second rigid body attachment having a smooth periphery.~~

13. (Currently amended) A fracture repair system as in claim 12:  
wherein the body portion of said plate further defines a second body hole  
therethrough; and further comprising a ~~movable~~ body attachment component  
including a stem portion for passage through the second body hole and into the  
bone and an opposed cap portion adapted to ~~movably~~ cooperate with said plate.

14. (Currently amended) A fracture repair system as in claim 13,  
wherein the body portion of said plate adjacent the first ~~mentioned~~ body hole  
defines a first location featured for cooperating with a drill jig for guiding the  
attachment components and the body portion of said plate adjacent the second  
body hole defines a second location featured for cooperating with the drill jig, the  
first location feature and the second location feature being substantially identical.

15. (Original) A fracture repair system as in claim 12, wherein said plate  
defines a surface thereof, the surface closely conforming to the bone.

16. (Currently amended) A fracture repair system as in claim 12:  
wherein the head portion of said plate has ~~an~~ a second internal wall defining a  
second head hole therethrough and adapted for cooperation with the condylar  
portion; further comprising a second bushing including a generally spherical  
exterior surface adapted for cooperation with the second head hole and an  
opposed interior surface defining a passageway therethrough, the exterior  
surface of said second bushing and the second head hole of said plate being

configured to permit polyaxial rotation of said second bushing within the second head hole; and further comprising a head attachment component including a distal portion sized for clearance passage through the passageway and into the bone and an opposed proximate portion sized to urge said second bushing against the second internal wall of said plate to form a friction lock between said second bushing and said plate in a selected polyaxial position, said head attachment component being positionable in an orientation extending divergingly from said pinplate.



17. (Currently amended) A fracture repair system for engagement with a bone, the system comprising:

a plate including a portion having ~~ana~~ a first internal wall defining a first body hole and a spaced apart second wall defining a second body hole therethrough; ~~a rigid body attachment component including a stem portion for passage through the body hole and into the bone and an opposed cap portion adapted to rigidly cooperate with said plate; and a movable body attachment component including a stem portion for passage through the body hole and into the bone and an opposed cap portion adapted to movably cooperate with said plate, at least one of the stem portion of said rigid body attachment component and the stem portion of said movable body attachment being unthreaded~~

a first bushing including a generally spherical exterior surface adapted for cooperation with the first hole and an opposed interior surface defining a passageway therethrough, the exterior surface of said first bushing and the first hole of said plate being configured to permit polyaxial rotation of said first bushing within the first hole;

a first pin including a cylindrical shank having a non-threaded external periphery and a head extending from the shank and sized to urge said first bushing against the first internal wall of said plate to form a friction lock between said first bushing and said plate in a selected polyaxial position;

a second bushing including a generally spherical exterior surface adapted for cooperation with the second hole and an opposed interior surface defining a passageway therethrough, the exterior surface of said second bushing and the

second hole of said plate being configured to permit polyaxial rotation of said

second bushing within the first hole; and

a second pin including a cylindrical shank having a non-threaded external  
periphery and a head extending from the shank and sized to urge said second  
bushing against the second internal wall of said plate to form a friction lock  
between said second bushing and said plate in a selected polyaxial position, said  
second pin being positionable in an orientation extending divergently from said  
first pin.

18. (Original) A fracture repair system as in claim 17, wherein said plate defines a surface thereof, the surface closely conforming to the bone.

19. (Cancelled)

20. (Currently amended) A fracture repair system as in claim 17:

wherein said plate defines a third hole therethrough; and

further comprising a third bushing including a generally spherical exterior surface adapted for cooperation with the third hole and an opposed interior surface defining a passageway therethrough, the exterior surface of said third bushing and the third hole of said plate being configured to permit polyaxial rotation of said bushing within the third hole; and further comprising a ~~head~~an attachment component including a distal portion sized for clearance passage through the passageway and into the bone and an opposed proximate portion sized to urge said third bushing against the third internal wall of said plate to form a friction lock between said bushing and said plate in a selected polyaxial position, said head attachment component being positionable in an orientation extending divergingly from ~~said plate~~ at least one of said first pin and said second pin.

21. (Cancelled)

22. (Currently amended) A joint fracture system for use with joint having adjoining first and second long bones, said system comprising:

~~a first plate for cooperation with the first long bone, the first plate including a first plate head portion and a first plate body portion, the first plate body portion having an internal wall defining a first plate first body hole and a spaced apart first plate second body hole therethrough;~~

~~a first plate rigid body attachment component including a stem portion for passage through the first plate first body hole and into the bone and an opposed cap portion adapted to rigidly cooperate with said first plate;~~

~~a first plate movable body attachment component including a stem portion for passage through the first plate first body hole and into the bone and an opposed cap portion adapted to movably cooperate with said first plate;~~

a first bushing including a generally spherical exterior surface adapted for cooperation with the first plate hole and an opposed interior surface defining a passageway therethrough, the exterior surface of said first bushing and the first plate hole of said first plate being configured to permit polyaxial rotation of said first bushing within the first plate hole;

a first pin including a cylindrical shank having a non-threaded external periphery and a head extending from the shank and sized to urge said first bushing against the internal wall of said first plate to form a friction lock between said first bushing and said first plate in a selected polyaxial position;

~~a second plate for cooperation with the second long bone, the second plate including a second plate head portion and a second plate body portion, the~~

~~second plate body portion having an internal wall defining a second plate first body hole and a spaced apart second plate second body hole therethrough;~~

a second bushing including a generally spherical exterior surface adapted for cooperation with the second plate hole and an opposed interior surface defining a passageway therethrough, the exterior surface of said second bushing and the second plate hole of said second plate being configured to permit polyaxial rotation of said second bushing within the second plate hole; and

a second pin including a cylindrical shank having a non-threaded external periphery and a head extending from the shank and sized to urge said second bushing against the internal wall of said second plate to form a friction lock between said second bushing and said second plate in a selected polyaxial position, said second pin being positionable in an orientation extending divergently from said first pin.

~~a second plate rigid body attachment component including a stem portion for passage through the second plate first body hole and into the bone and an opposed cap portion adapted to rigidly cooperate with said second plate; and~~

~~a second plate movable body attachment component including a stem portion for passage through the second plate second body hole and into the bone and an opposed cap portion adapted to movably cooperate with said second plate, at least one of the stem portion of said first plate rigid body attachment component, the stem portion of said second plate rigid body attachment, the stem portion of said first plate moveable body attachment~~

~~component and the stem portion of said second plate moveable body attachment being unthreaded.~~

23. (Currently amended) A joint fracture repair system as in claim 22, wherein one of said first plate and said second plate defines a surface thereof, the surface closely conforming to the bone.

24. (Currently amended) A joint fracture repair system as in claim 22: wherein aone of said first plate and said second plate has a second internal wall defining a third hole ~~portion of at least one of the stem portion of said rigid body attachment components for passage through the body hole is sized to be in clearance with the body hole;~~ and further comprising an additional rigid body attachment component including a stem portion for passage through the ~~body~~second hole and into the bone and an opposed cap portion adapted to rigidly cooperate with ~~said plate~~one of said first plate and said second plate, the stem portion of said second rigid body attachment component threadably cooperates with ~~said plate~~one of said first plate and said second plate.

25. (Currently amended) A fracture repair system as in claim 22:

wherein ~~the head portion of at least one of said plates has a~~second  
internal wall defining a ~~head~~third plate hole therethrough ~~and adapted for~~  
~~cooperation with the condylar portion; and~~

further comprising a third bushing including a generally spherical exterior  
surface adapted for cooperation with the ~~head~~third plate hole and an opposed  
interior surface defining a passageway therethrough, the exterior surface of said  
third bushing and the head hole ~~of said plate~~ being configured to permit polyaxial  
rotation of said third bushing within the ~~head~~third plate hole; and further  
comprising a head attachment component including a distal portion sized for  
clearance passage through the passageway of said third bushing and into the  
bone and an opposed proximate portion sized to urge said third bushing against  
~~the internal wall of said one of said plates~~ to form a friction lock between said  
third bushing and ~~at least one~~ said one of said plates in a selected polyaxial  
position, said head attachment component being positionable in an orientation  
extending divergingly from at least one of said plates first pin and said second  
pin.

26. (Currently amended) A fracture repair system as in claim 22, wherein at least one ~~the body portion~~ of said first plate and ~~the body portion of~~ said second plate defines a third plate hole ~~therethrough opposed to the head portion~~, the third plate hole adapted for cooperation with ~~one of said first platea~~ rigid body attachment component ~~and said second plate rigid plate attachment~~ to provide rigid attachment of said one of said plates to said component to avoid movement of said plate with respect to the bone as the joint is moved.

27. (Currently amended) A fracture repair system as in claim 22, wherein at least one ~~the body portion~~ of said first plate and ~~the body portion of~~ said second plate defines an end thereof ~~opposed to the head portion~~, the end having a tapered shape to assist in percutaneous insertion of ~~the said one of~~ said plates into an implanting position adjacent one of the long bones.

28 and 29. (Cancelled)



30. (Currently amended) A fracture repair system for engagement with a bone having a condylar portion and a shaft portion, the system comprising:

a plate including a head portion and a body portion, the head portion having an internal wall defining a head hole therethrough and adapted for cooperation with the condylar portion, the body portion having an internal wall defining a body hole therethrough and adapted for cooperation with the shaft portion;

a bushing including a generally spherical exterior surface adapted for cooperation with one of the body hole and the head hole and an opposed interior surface defining a passageway therethrough, the exterior surface of said bushing and the one of the body hole and the head hole of said plate being configured to permit polyaxial rotation of said bushing within the one of the body hole and the head hole; and

a first pin including a cylindrical shank having a non-threaded external periphery and a head extending from the shank and sized to urge said bushing against the internal wall of one of the body portion and the head portion, said plate configured to form a friction lock between said bushing and said plate in a selected polyaxial position;

~~and-~~

~~an attachment component including a distal portion sized for passage through at least one of the head hole and the body hole and into the bone and an opposed proximate portion sized to rigidly secure to the internal wall of one of~~

~~the head hole and the body hole, the distal portion being generally cylindrical and having a smooth periphery, said attachment component comprising a pin.~~

31. (Original) A fracture repair system as in claim 30, wherein said plate defines a surface thereof, the surface closely conforming to the bone.

32. (Currently amended) A fracture repair system as in claim 30, further comprising a second attachment component ~~pin~~ including a distal portion sized for passage through the other of the head hole and the body hole and into the bone and an opposed proximate portion sized to rigidly secure to the internal wall of the other of the head hole and the body hole, the distal portion being generally cylindrical and having a smooth periphery.

33. (Currently amended) A fracture repair system as in claim 30, further comprising an second attachment component having first external threads on the proximate portion thereof and second external threads on the distal portion thereof, the distal portion sized for passage through the other of the head hole and the body hole and into the bone. ~~An external bone/joint fixation component comprising:~~

~~—— A one piece frame having a posterior portion lying essentially in a first plane and an anterior portion transverse to said posterior portion and lying essentially in a second plane; and~~

~~a first plurality of fixation bores disposed in said posterior portion and a second plurality of fixation bores disposed in said anterior portion each of which is configured to receive a wire fixator that is adapted to receive an end of a fixation wire.~~

34 and 35. (Cancelled)